U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Pagerwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitu	le for form 1449/PTC		•	Complete if Known		
				Application Number	10/722,929	
		TION D	OOL OOLIDE	Filing Date	11/26/2003	
			SCLOSURE	First Named Inventor	Rynd	
			APPLICANT	Art Unit	1791	
	(Use as	many sheets as	s necessary)	Examiner Name	Wollschlager	
Sheet	1	of	6	Attorney Docket Number	25226A	

			U. S. PATENT D	OCUMENTS	
Examiner Cite No.1		Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant
		Number-Kind Code ²⁴ ****) 2,365,086	12/12/1944	Kamowski	Figures Appear
7."		3,574,644	4/13/1971	Olstowski et al.	
		4,301,040	11/17/1981	Berbeco	
		4,385,156	5/1/1983	Ingram et al.	
		4,996,109	2/26/1991	Krieg et al.	
		5,130,342	7/14/1992	McAllister et al.	
		5,550,170	8/1/1996	Trager et al.	
		5,679,718	10/21/1997	Suh et al.	
		5,719,199	2/17/1998	Wallace et al.	
		5,779,775	7/14/1998	Kuwabara	
		5,853,752	12/29/1998	Unger et al.	
		5,912,279	6/15/1999	Hammel et al.	
		5,993,707	11/20/1999	Chaudhary et al.	
		6,048,909	4/11/2000	Chaudhary et al.	
		6,093,752	7/25/2000	Park et al.	
***************************************		6,130,265	10/10/2000	Glueck et al.	

	FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited	Pages, Columns, Lines, Where Relevant Passages	Ta			
		Country Codes_Number 4_Kind Codes (if known)		Document	Or Relevant Figures Appear	.,			
		DE 199 07 663	8/24/2000	BASF					
		DE 199 10 257	9/21/2000	Schwenk					
		DE 2004 019708	11/17/2005	Stork et al.					
		EP 0 729 999	4/9/1996	Okisaki et al.					
		EP 0 863 175	9/9/1998	Hahn et al.					
		EP 01214372	12/28/2005	Duffy					

Examiner	Date	
Signature	Considered	
Cigrature	00.10120100	

*EXAMINER Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute fo	or form 1449/PTO	,	· •	Con	nplete if Known	
				Application Number	10/722,929	
	INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Filing Date	11/26/2003		
				First Named Inventor	Rynd	
S				Art Unit	1791	
	(Use as many sh	eets as	s necessary)	Examiner Name	Wollschlager	
Sheet	2	of	6	Attorney Docket Number	25226A	

	U. S. PATENT DOCUMENTS							
Examiner Cite Initials* No.1		Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant			
		Number-Kind Code ^{2 (9 1000)})			Figures Appear			
		6,133,333	10/17/2000	Chaudhary et al.				
		6,174,471	1/16/2001	Park et al.				
		6,197,233	3/6/2001	Mason et al.				
		6,213,540	4/10/2001	Tusim et al.				
		6,231,795	5/15/2001	Chaudhary et al.				
		6,242,540	6/1/2001	Crevecoeur et al.				
		6,340,713	1/22/2002	Gluck et al.				
		6,350,789	2/26/2002	Miller et al.				
		6,355,341	3/12/2002	Chaudhary et al.				
		6,362,242	3/26/2002	Gluck et al.				
		6,387,968	5/14/2002	Gluck et al.				
		6,417,240	7/9/2002	Park				
		6,420,442	7/16/2002	Dietzen et al.				
		6,521,672	2/18/2003	Gluck et al.				
	İ	2001/0036970	11/1/2001	Park				
		2002/0041955	4/11/2002	Watanabe et al.				

		FOREIG	N PATENT DOCU	MENTS		
Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures	Tε
		Country Codes-Number 4-Kind Codes (if known)			Appear	-
		EP 0515125	11/25/1992	York		<u> </u>
		EP 0675918	9/27/2000	Reedy et al.		
		EP 0921148	2/23/2000	Eschenlauer et al.		
		EP 0922554	6/25/2003	Eschenlauer et al.]
		EP 1 205 437	5/15/2002	Osawa		
		EP 1 209 189	5/29/2002	Kresta		

Examiner		Date	
Signature		Considered	

*EXAMINER Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Indication of the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

25226A

Substitu	ite for form 1449/P		INGIN REGUCIONACI OF 1999, NO PERS		nplete if Known
Oubsuit	3(C)OI 10IIII 1443IF	10		Application Number	10/722,929
				Filing Date	11/26/2003
			ISCLOSURE	First Named Inventor	Rynd
		•	APPLICANT	Art Unit	1791
	(Use a	is many sheets a	s necessary)	Examiner Name	Wollschlager
Shoot	2	of	T &	Attorney Docket Number	252264

3

Sheet

6

of

			U. S. PATENT D	OCUMENTS	
Examiner Initials*	Cite No.1	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant
		Number-Kind Code ^{2(#1000})			Figures Appear
		2002/0086908	7/1/2002	Chou et al.	
		2002/0121717	9/5/2002	Chaudhary et al.	
		2002/0155270	10/24/2002	Chaudhary et al.	
		2002/0168509	11/14/2002	De Simone et al.	
		2003/0082343	5/1/2003	Brucker	
		2003/0162852	8/28/2003	Chaudhary et al.	
		2003/0175497	9/18/2003	Kobe et al.	
		2004/0167240	8/26/2004	Burgun et al.	
		2004/0209782	10/21/2004	Zhang et al.	
		2005/0048276	3/3/2005	Wilson	
		2005/0112356	5/26/2005	Rynd et al.	
		2006/0148916	7/6/2006	Loh et al.	

	FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Foreign Patent Document-	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited	Pages, Columns, Lines, Where Relevant Passages	Te			
		Country Codes-Number 4-Kind Codes (if known)		Document	Or Relevant Figures Appear				
		EP 620 246	10/19/1994	Algostat					
		EP 97/02457	10/10/2000	Glueck et al.					
		EP 99/04867	5/7/2002	Glueck et al.					
		WO 1999/047592	9/23/1999	Park et al.					
		WO 2000/034363	6/15/2000	Chaudhary et al.					
		WO 2000/034365	6/15/2000	Chaudhary et al.					

Examiner	Date	
Signature	Considered	

*EXAMINER Initial If reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached. symbols as indicated on the document under WIPO Standard S1.16 if possible. Applicant its to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The Information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08a (04-09) Approved for use through 05/31/2009. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Page work Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

	Order the Paperwork Reduction Action 1995, his persons are required to respond to a contextion of illionitiation divises it contains a valid owns control from						
Substitute for	form 1449/PTO			Complete if Known			
				Application Number	10/722,929		
INI		ı Di		Filing Date	11/26/2003		
			SCLOSURE	First Named Inventor	Rynd		
Si			APPLICANT	Art Unit	1791		
(Use as many sheets as necessary)				Examiner Name	Wollschlager		
Sheet	4	of	6	Attorney Docket Number	25226A		

	U. S. PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear				
	-	Number-Kind Code ² (******)			Figures Appear				
	-								

	+								
	- 								
	+ +								
			1						
	+								
		····							

	FOREIGN PATENT DOCUMENTS									
Examiner Cite No.1		Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited	Pages, Columns, Lines, Where Relevant Passages	T ₆				
		Country Codes-Number 4-Kind Codes (if known)		Document	Or Relevant Figures Appear	10				
		WO 2004/065461	8/5/2004	Lee et al.						
		WO 2004/067577	8/12/2004	McDonald et al.						
		WO 2004/078785	9/1/2004	Moad et al.						
		WO 2005/054349	6/16/2005	Rynd et al.						
		WO 2006/009945	1/26/2006	Hagerty et al.						
		WO 2006/009980	1/26/2006	Lin et al.						

Examiner	Date	
Signature	Considered	
	l .	

*EXAMINER Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Panerwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for	r form 1449/PTO	•	. ,	Complete if Known		
				Application Number	10/722,929	
18.1			001.001105	Filing Date	11/26/2003	
			SCLOSURE	First Named Inventor	Rynd	
Sī			APPLICANT	Art Unit	1791	
(Use as many sheets as necessary)				Examiner Name	Wollschlager	
Sheet	5	of	6	Attorney Docket Number	25226A	

U. S. PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where			
HIIUAIS	NO.1	Number-Kind Code ²⁽⁽¹⁰⁰⁾)	MIMI-DO-1111	Olfed Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures	Тв		
		Country Codes-Number 4-Kind Codes(if known)			Appear	<u> </u>		
		WO 2006/073712	7/13/2006	Loh et al.				
		WO 2008/005022	1/10/2008	Loh et al.				
		WO 97/31053	8/28/1997	Karande et al.				
		WO 98/03581	1/29/1998	Creazzo et al.				
		WO 99/31170	6/24/1999	Chaudhary et al.				

Examiner	Date	
Signature	Considered	

*EXAMINER Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are recurred to rescond to a collection of information unless it contains a valid OM8 control number.

	Ditigst, the Laberwork Mediction Mct of 1892' to be seure stelled need to teaborin to a consection on Highward nitreasts contents a Asia own content unification.						
Substitute fo	r form 1449/PTO			Complete If Known			
				Application Number	10/722,929		
13.1	アヘンドルルディベル		COLOUBE	Filing Date	11/26/2003		
"			SCLOSURE	First Named Inventor	Rynd		
S			APPLICANT	Art Unit	1791		
(Use as many sheets as necessary)				Examiner Name	Wollschlager		
Sheet	6	of	6	Attorney Docket Number	25226A		

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published.	T ²
		International Search Report PCT/US2005/045291 dated 5/12/2006	
		International Search Report PCT/US2006/035056 dated 2/20/2008	
	1 -	International Search Report PCT/US2008/058543 dated 7/23/2008	
		Zhang, et al., Preparation and Combustion Properties of Flame Retardant SBA Copolymer/Graphite Oxide Nanocomposites, Marcromol, Mater Eng., March 2004, 289, 355-59.	
		Cassegneau, et al., Preparation and Characterization of Ultrathin Films Layer-by-Layer Self Assembled from graphite Oxide Nanoplatelets and Polymer, Langmuir, 2000, 16, 7318-24.	
		Guo-Hua Chen, Da-Jun Wu, Wen-Gul Weng and Wen-Li Yan; Dispersion of Graphite Nanosheets in a Polymer Matrix and the Conducting Property of the Nanocomposites; Polymer Engineering and Science, Dec. 2001, Vol 41, No. 12; pp 2148-54.	
		Pan, Y.X., Yu, Z.Z, Ou, Y.C., Hu, G.H.; A new process of fabracating electrically conducting nylon 6/graphite nanocomposites via intercalation polymerization, Journal of Polymer Science: Part B: Polymer Physics, 38, 1626-1633 (2000).	
		Xiao, P., Xiao, M., Gong, K.; Preparation of exfoliated graphite/polystyrene composite by polymerization-filling technique, Polymer, 42, 4813-4816 (2001).	
		Chen, G.H., Wu, D.J., Weng, W.G., Yan, W.L., Preparation of polymer/graphite conducting nanocomposite by intercalation polymerization, Journal of Applied Polymer Science, 82, 2506-2513 (2001).	
		Uhl, F.M. and Wilkie, C.A., Polystyrene/graphite nanocomposites: effect on thermal stability, Polymer Degradation and Stability, 76, 111-122 (2002).	
		Modesti, M., Lorenzetti, A., Simioni, F., Camino, G., Expandable graphite as an intumescent fiame retardant in polylsocyanurate-polyurethane forms, Polymer Degradation and Stability, 77, 195-202 (2002).	
		Drzal, L.T. and Fukushima, H., Graphite nanoplatelets as reinforcements for polymers, Polymers Preprints (American Chemical Society, Division of Polymer Chemistry) 42 (2), 42-43 (2001).	
	1		

Examiner	Date	
Signature	Considered	

EXAMINER: Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 Ciff 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.